



The Tichoukt Massif: a Geotouristic Play in the Folded Middle Atlas (Morocco)

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Abstract

The Folded Middle Atlas Mountains has rich geomorphologic landscapes and remarkable geological sites, little known by the general public. In this paper, we propose an approximately 60-km geological trail, including several geosites mostly staggered in the sinuous valleys of the Atchane and Guigou rivers, between the Boulemane, Skoura, and El Mers. These geosites, reflecting the geological, geomorphological, and environmental history of the region, and combined with strong esthetic value, give a particular scientific and geotouristic interest to the proposed geotrail. The Boulemane panorama gives the opportunity to observe a case study of geomorphology linked to a knee-fold that corresponds to the SW perianticline of the majestic Tichoukt chain. The geotrail then offers several geosites in the Middle Jurassic regressive sedimentary series of the Skoura Syncline. The NE extremity of the Tichoukt shows the thrusting of the fold crest onto the inverted flank of the Skoura Syncline (Pliocene Alpine tectonic). SE flank of the Tichoukt fold is affected by a Middle Jurassic uplift related to faulting and diapiric activity. The geotrail ends in El Mers, which was the site of the first discovery of sauropod dinosaur in Morocco. This geoheritage has been never used into the traditional tourist trail; it deserves to be valued in the context of projects aimed at developing a sustainable eco-geotourism, and the knowledge of the culture of the Amazigh people in these harsh mountainous areas.

Keywords Geotourism · Geosites · Jurassic sedimentary formations · Folded Middle Atlas · Tichoukt · Skoura · Morocco

Introduction

The Middle Atlas fold belt has rich geomorphological landscapes and remarkable geological sites, with an additional esthetic value making them of particular scientific and geotouristic interests. Most of the tourist itineraries concern the Tabular Middle Atlas and its extinct volcanoes. The Folded Middle Atlas area, never involved into the traditional tourist trails, would deserve to be valued in the context of projects aimed at developing a sustainable geotourism, eco-environment, and the culture of the Amazigh people in these harsh mountainous areas. Here, we propose a geotrail around the gorgeous massif of the Jebel Tichoukt following a loop Boulemane-Skoura-El Mers-Boulemane.

The census of the geosites, included in the geotrail (Table 1), takes into account several criteria of complementary interests. However, the choice and the classification of these geosites is based on the typology standards given by GILGES 1989 (Global Indicative List for Geological Sites); IUGS Geosites Programme, UNESCO 1993

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